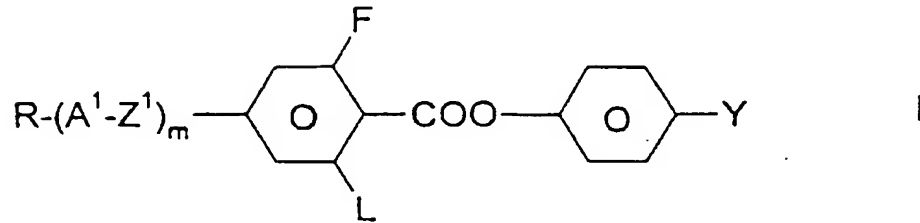


Patent Claims

1. Liquid-crystalline phenol esters of the formula I



5 in which

R is H, an alkyl or alkenyl radical having up to 15 carbon atoms which is unsubstituted, monosubstituted by CN or CF₃, or at least monosubstituted by halogen, where one or more CH₂ groups in these radicals may also be replaced by -O-, -S-, -C≡C-, -OC-O- or -O-CO- in such a way that O atoms are not linked directly to one another,

15

A¹ a) is a 1,4-cyclohexenylenyl or 1,4-cyclohexenylenyl radical, in which one or two non-adjacent CH₂ groups may be replaced by -O- or -S-,

20

b) is a 1,4-phenylene radical, in which one or two CH groups may be replaced by N,

25

c) is a piperidine-1,4-diyl, 1,4-bicyclo-[2.2.2]octylene, naphthalene-2,6-diyl, decahydronaphthalene-2,6-diyl or 1,2,3,4-tetrahydronaphthalene-2,6-diyl radical,

30

where the radicals a), b) and c) may be monosubstituted or polysubstituted by halogen atoms,

- 61 -

Z^i is $-\text{CO}-\text{O}-$, $-\text{O}-\text{CO}-$, $-\text{CF}_2\text{O}-$, $-\text{OCF}_2-$, $-\text{CH}_2\text{O}-$,
 $-\text{OCH}_2-$, $-\text{CH}_2\text{CH}_2-$, $-\text{C}_2\text{F}_4-$, $-\text{CH}=\text{CH}-$, $-\text{C}\equiv\text{C}-$ or a
 single bond,

5 Y is F, Cl, CN or a monohalogenated or
 polyhalogenated alkyl, alkenyl, alkenyloxy or
 alkoxy radical having 1 to 5 carbon atoms,

L is H or F, and

10

m is 0, 1 or 2.

2. Phenol esters according to Claim 1, characterized
 in that R is a straight-chain alkyl radical having
 15 1 to 10 carbon atoms or an alkenyl radical having
 2 to 10 carbon atoms.

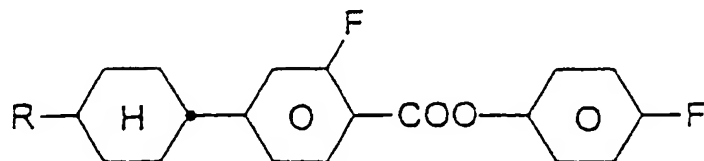
3. Phenol esters according to Claim 1 or 2,
 characterized in that

20 Y is F, Cl, CN, CF_3 , CF_2H , OCF_3 , OCF_2H , OCFHCF_3 ,
 OCFHCFH_2 , OCFHCF_2H , OCF_2CH_3 , OCF_2CFH_2 , $\text{OCF}_2\text{CF}_2\text{H}$,
 $\text{OCF}_2\text{CF}_2\text{CF}_2\text{H}$, $\text{OCF}_2\text{CF}_2\text{CFH}_2$, $\text{OCFHCF}_2\text{CF}_3$, $\text{OCFHCF}_2\text{CF}_2\text{H}$,
 $\text{OCF}_2\text{CF}_2\text{CF}_3$, $\text{OCF}_2\text{CHF}_2\text{CF}_3$ or $\text{OCClFCF}_2\text{CF}_3$.

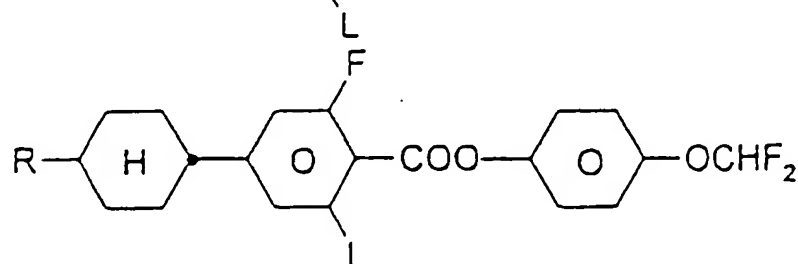
25 4. Phenol esters according to one of Claims 1 to 3,
 characterized in that $m = 1$.

*Sub
 5a*

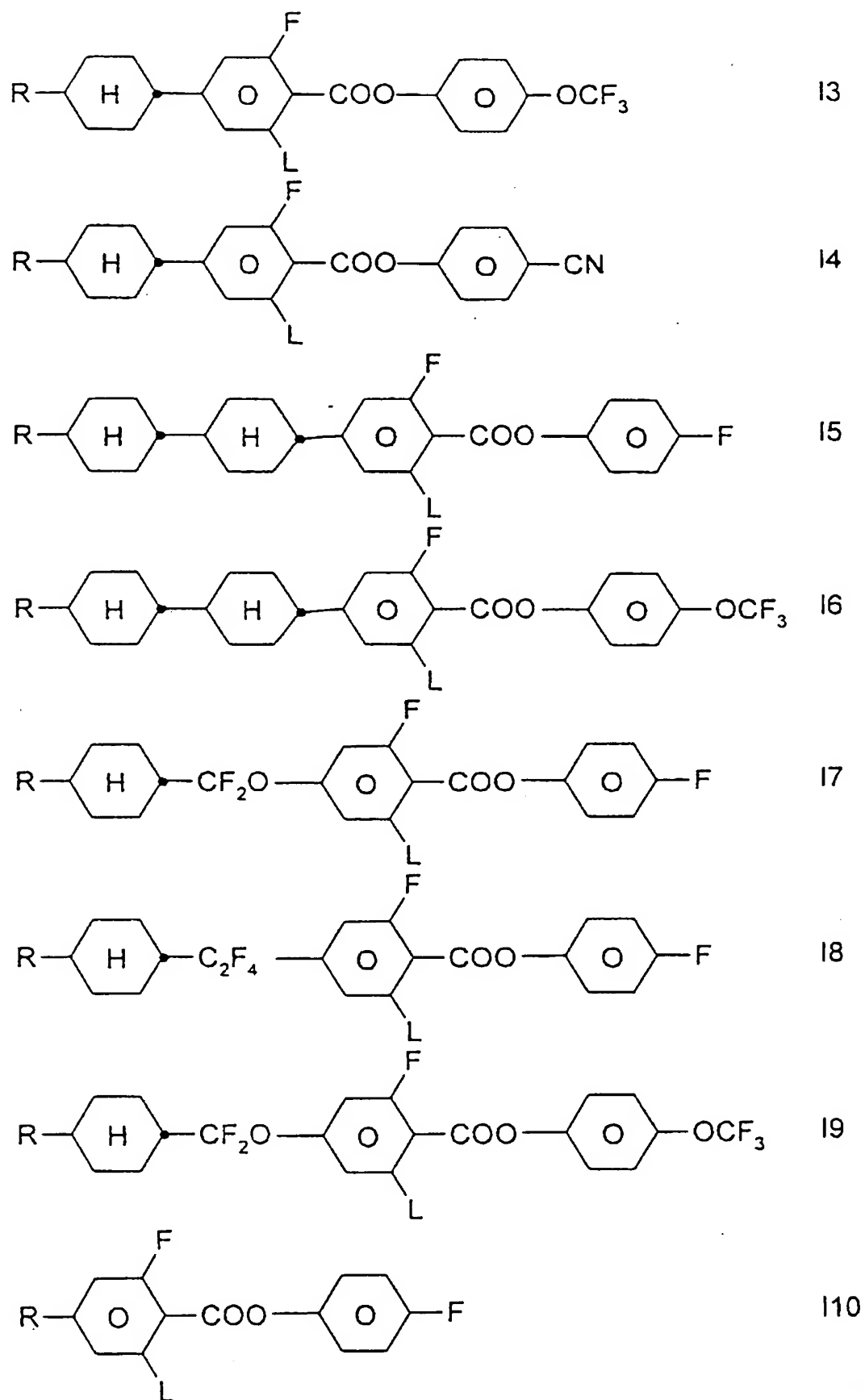
5. Phenol esters of the subformulae I1 to I12:

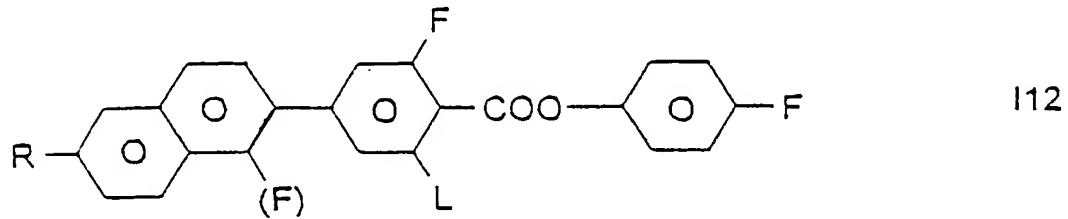
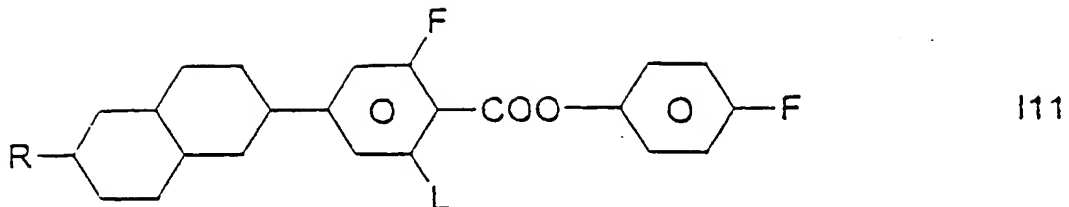


I1



I2





in which

R and L are as defined in Claim 1.

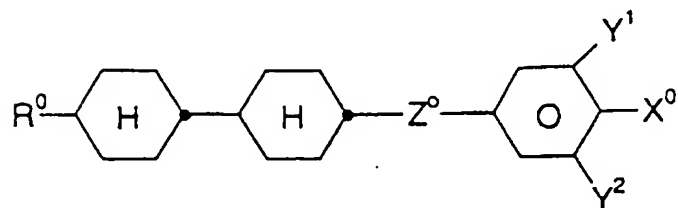
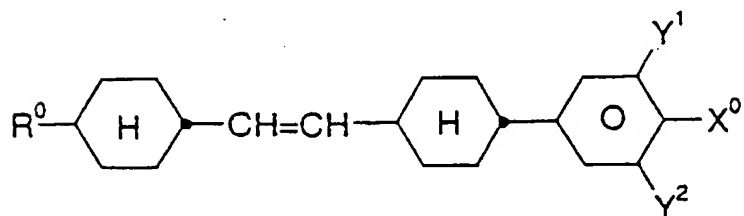
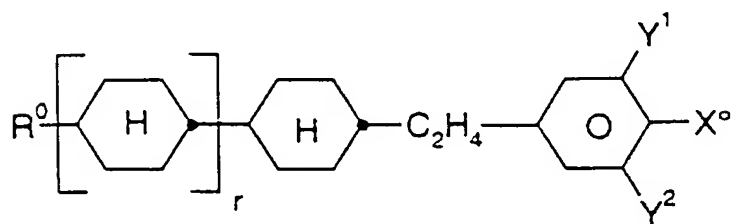
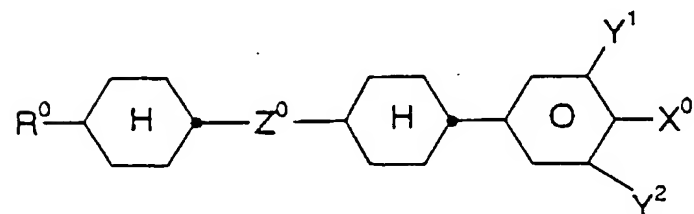
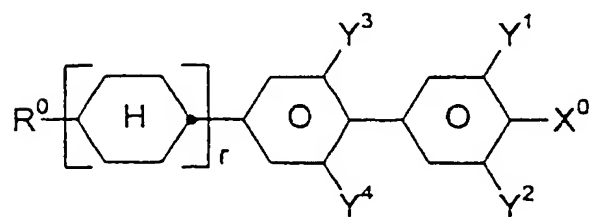
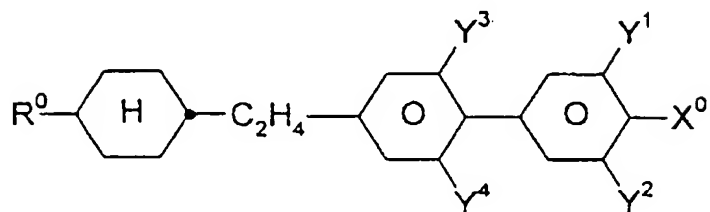
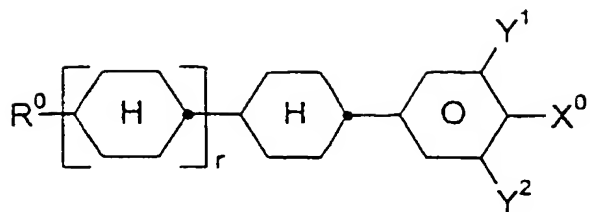
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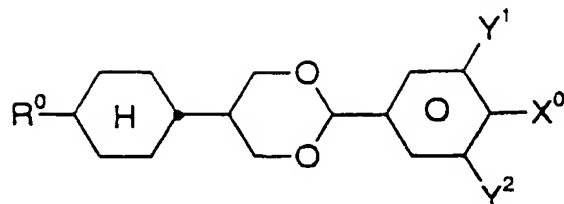
6. Liquid-crystalline medium comprising at least two mesogenic compounds, characterized in that it comprises at least one phenol ester according to Claim 1.

10

7. Liquid-crystalline medium according to Claim 6, characterized in that it additionally comprises one or more compounds selected from the group consisting of the general formulae II, III, IV, V, VI, VII, VIII and IX:

15





IX

in which the individual radicals have the following meanings:

5

R^0 is n-alkyl, oxaalkyl, fluoroalkyl, alkenyloxy or alkenyl, in each case having up to 9 carbon atoms,

10

X^0 is F, Cl, halogenated alkyl, alkenyl or alkoxy having 1 to 6 carbon atoms,

15

Z^0 is $-C_2H_4-$, $-C_2F_4-$, $-CF_2O-$, $-OCF_2-$ or $-COO-$,

15

Y^1 , Y^2 , Y^3 and Y^4 are each, independently of one another, H or F, and

20

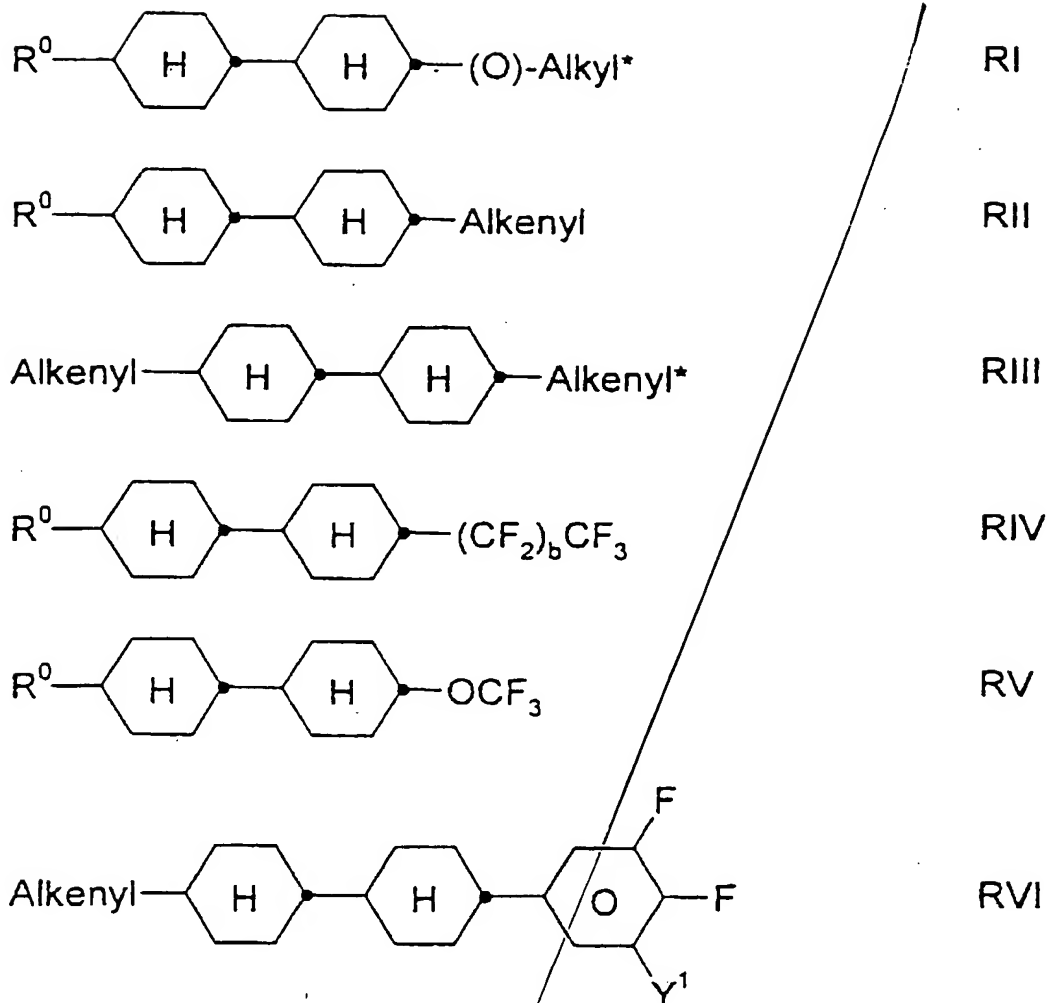
r is 0 or 1.

8. Medium according to Claim 6 or 7, characterized in that the proportion of compounds of the formulae I to IX in the total mixture is at least 50% by weight.

25

9. Medium according to one of Claims 6 to 8, characterized in that it additionally comprises one or more compounds of the formulae RI to RVI

30



in which

5 R^0 is n-alkyl, oxoalkyl, fluoroalkyl, alkenyloxy or alkenyl, in each case having up to 9 carbon atoms,

10 b is 0, 1 or 2,

Y^1 is H or F,

15 Alkyl* is a straight-chain alkyl radical having up to 9 carbon atoms,

Alkenyl or Alkenyl*

is, in each case independently of one another, an alkenyl radical having up to 9 carbon atoms.

- 5 10. Medium according to one of Claims 7 to 9,
characterized in that X^0 is F or OCF_3 and Y^2 is H
or F.

- 10 11. Use of the liquid-crystalline medium according to
Claim 6 for electro-optical purposes.

12. Electro-optical liquid-crystal display containing
a liquid-crystalline medium according to Claim 6.